CESAS-PM-CM 20 April 2005

MEMORANDUM FOR RECORD:

SUBJECT: Savannah River Basin Comprehensive Study; Stakeholder and PDT Meetings Summary.

1. On 26 March 2004 the PDT and Stakeholders met at the Evans Government Center to review proposed water allocations and operational scenarios to be run in the RES SIM Model. See attached list of attendees.

2. Pursuant to a follow-up review on 13 April 2004 by Mr. Leroy Crosby, Mr. Stan Simpson, Mr. Jason Ward, and myself with conference phone connection to HEC's Ms. Joan Klipsch, I am providing a updated list of scenarios to run in the model, see below. There is very little difference in these compared to what was provided to all in the MFR, dated 25 February 2004 and provided again on 26 March 2004 in the stakeholders meeting.

3. Water Allocations and Operational Scenarios:

A. Drought Plan Operations: A group of first cut alternatives were developed to access the impacts of different triggers and their timing:

A1. During drought recovery use the same triggers of 3600 and 4500 cfs and increase flows when return elevations hit one and two feet above the elevation triggers.

A2. Increase the number of drought triggers for drought management and return from drought to provide a more gradual transition to 3600cfs.

A3. Lower the minimum drought-trigger 3 JST releases to 3300 cfs and 3000 cfs with a rule to maintain 3600 cfs at the lock and dam. Similar to EA proposed during recent drought.

A4. Raise minimum level 3 JST releases to 3800 cfs to determine or illustrate pool elevation differences.

A5. Maximize RBR pumping during drought within current environmental operational limits.

1. Two pump units June thru Sept.
2. Four pump units year round.

(Full pumping with four units for six hours returns over 13,000 acre-feet back into RBR, providing a 6 inch rise, and a 2 inch decrease to JST.

A6. Add flow restrictions at JST for drought trigger 1 condition.

A7. Adjust Level 3 elevations at Hartwell and JST from 646 and 316 to:

1) 648 and 318
2) 649 and 320

B. Storage Changes: A group of first cut alternatives were developed to access the impacts of changes in storage:

B1. Raise some or all pools one foot, decreasing the flood storage allocation and increasing the conservation pool storage; providing for additional water supply and ecosystem flood releases. Run synthetic storm events and access flood damages.

B2. Leave the Hartwell conservation pool at 660 year round and only perform a winter drawdown on JST. providing for different release alternatives and to determine amount of system flood control that is adequate

B3. Increase physical storage on all three lakes by raising the flood storage and increasing the conservation by tainter gate extensions raising the pools one to two feet. Providing for additional water supply and ecosystem flood releases.

B4. Run some scenarios with imbalanced pools for different drought release and pulses such as varying drawdown rates based on the impact to available shoreline facilities

B5. Raise the bottom of the Hartwell conservation pool up from 625 to 642 to match the 18 foot conservation storage at JST. Drought management rules will not allow Hartwell to drop to 625 ft. msl. Hartwell between 642 and 625 will become inactive pool.

B6. Set in pool withdrawals to use up all 50,000 acre ft and compare to present demands. (It's a volume limitation/not yearly)

B7. Adjust all M&I water demands to 2050 and compare to present demands

C. Flow Changes: A group of first cut alternatives were developed to access the impacts of changes in flow release:

C1. Run all TNC recommendations and it was noted that the two springtime pulses of 16,000 cfs will volumetrically equal about two feet off both Hartwell and JST Lakes, not considering inflow. May need to add inflow caveats to allow/disallow pulse releases. If released, then access the impacts to pool elevation and storage.

C2. Model downstream flows of 16,000 cfs for the spring with and without and fall TNC releases. The TNC proposed fall pulse in October will be 20,000 cfs at the Augusta Shoals. We'll also model TNC pulses in 5000 cfs increments up to 50,000cfs.

C3. Compare releases at 30,000 (or 15,000). A stakeholder/farmer suggested this at our Dec meeting in Evans and shared that a shed, tractors and tree farms have

been flooded by past high releases. This alternative would evaluate effects of flood pulses.

D. Operational Rules: A group of first cut alternatives were developed to access the impacts of changes to Project operations:

D1. Run the current base condition that reflects current drought management practices and the current agreement with Duke Power on releases from Keowee into Lake Hartwell (1962 agreement vs. temporary agreement with current conservation pool definition at Keowee).

D2. Put winter draw-downs in date sync with each other (Possibly establish draw down limits to 0.5'/week and a modeling rule may be set to say that). Current draw-downs are Oct-Dec and preferably not during peak recreational activity. Possibly shift drawdown window to later in the season or increase duration of drawdown period. This provides for continuity and public perceptions.

Possible Pool Adjustments
Set breaks in full Pool at the same places for Hartwell, RBR and Thurmond

Jan 01	April 01	Oct 1	Dec 1
Hartwell			
660	660	660	660
659	660	660	659
658	660	660	658
657	660	660	657
658	662	662	658
658	661	661	658
RBR			
476	476	476	476
475	476	476	475
475	477	477	475
JST			
327	330	330	327

Adjust Drawdown Period

Oct 1	Dec30

D3. Decrease the Hartwell winter drawdown up from 656 to 658 to retain more water for recreational needs in the coming year.

D4. Decrease the winter draws on both Hartwell and JST by specific increments. Put winter draw-downs in sync with each .

D5. Continue to hold a flat pool within current guidelines for spring fish spawn for most, if not all, normal operational scenarios to be modeled. The South Atlantic Division Regulation DR1130-2-16, dated 30 March 2001 will be used as a model operational rule.

D6. RBR Pump Operations:

Springtime Pump Limitations Lift when Below Level 2
2 units June-September
4 units June-September
Pump at 1/2 capacity
Pump to 473 instead of 475

D7. Compare runs with System Power Requirements and without to determine impacts on system power

E. Other Alternatives: A group of first cut alternatives were developed to access the impacts of other changes in the system:

E1. Use of levees at various locations to offset flood damages form ecosystem pulses or decrease flood storage at the projects.

Comment: Same as A4

5. Milestone Schedule: The PDT on 11 February developed the following target milestone schedule for work through FY 05 and this was also presented at the stakeholders meeting.

a. Develop and Evaluate Water Allocation Operational Scenarios.	Jan-Jun 2004
b. Develop Draft Drought Management Plan Recommendations	Sept. 2004
c. Initiate any required NEPA actions on Drought Plan changes.	Oct/Nov 2004
d. Complete Draft Phase I Recommendations and Draft Decision Document.	Dec. 04
e. Finalize Phase I Recommendations and Decision document.	Apr. 05
f. Amend cost share Agreements with SC and GA.	May 05
g. Complete NEPA on Drought Management Plan changes.	May 05
h. Execute Phase II Studies and RES SIM modeling	May 05
i. Complete Interim Drought Management Plan Revisions and Formalize the Document	Sept. 05

6. The Savannah District team welcomes PDT and stakeholder comments and please feel free to provide these to me by e-mail as well as any other scenarios that you would like to see modeled in RES SIM.

7. The HEC-ResSim model improvements for the comprehensive study are proving to be more difficult to fully implement than originally anticipated by the software contractor. In response to recent input from stakeholders regarding the need for economic analysis, we are beginning the initial economic assessment to update existing flood damage estimates downstream of J. Strom Thurmond. The University of Georgia team of research scientists that were involved in the development of a set of ecosystem flow recommendations are also pursuing funding to include a socio-economic aspect in future studies. In order to quantify benefits and damages associated with floodplain inundation economic and environmental monitoring data will be crucial. The Savannah District is also inquiring about any possibility that the State of Georgia may assist in collecting economic data associated with flood damages and economic impacts associated with drops in pool elevations during drought periods as part of their "in kind" contributions to the study.

William G. Lynch,
Senior Project Manager
US Army Corps Engineers
Savannah District

Stakeholders Workshop
26-Mar-04

Name	Agency, Office, or Group	**Phone No.**
Barb Shelley	Friends of the Savannah River Basin	(864)-391-4346
Tracy Beer	Duke Power	(704)-373-7890
Dick Deuel	Beaufort Jasper Water & Sewer	(843)-987-9265
Andrew Wachob	S.C. Department of Natural Resources	(803)-734-6440
Laurie Gawin	The Nature Conservancy	(706)-791-6112
Nancy Bobbitt	Congressman Max Burns	(706)-854-4595
Kathleen Haro-Blacks	Congressman Charlie Norwood	(706)-733-7066
Jim Hussey	U.S. Senator Saxby Chambliss	(706)-589-0387
Fred Moreadith	Goodale Landing Home Owners	(706)-722-7509
Bill Payne	WSRC – Savannah River Site	(803)-725-3465
Jerry Harom	J. Hardin & Associates	(706)-294-9411
Drew Goins	City of Augusta	(706)-312-4152
Yi Zhang	GA EPD	(404)-657-8807
David Hawkins	GA EPD	(404)-657-0017
Nolton Johnson	GA EPD	(404)-651-5768
Tim Stamey	USGS GA	(770)-903-9138
Gary Mauldin	COE - SAD	(404)-562-5232
Douglas Spencer	SEPA	(703)-213-3855
Herb Nadler	SEPA	(706)-213-3853
Ken Legg	SEPA	(706)-213-3850
Martin Becker		(404)-876-3900
Bill Lynch	USACE SAS	(912)-652-5276
Jason Ward	USACE SAS	(912)-652-5205
Leroy Crosby	USACE SAS	(912)-652-5789
Stan Simpson	USACE SAS	(912)-652-5501
Patrick Conley	Zapaa Engineering	(704)-358-8240
Scott Watson	OP-H	(706)-856-0304
Sandy Campbell	COE OP-H	(706)-856-0315
George Bramlette	COE OP-H	(706)-856-0334
Rob Pavey	Augusta Chronicle	868-1222
Dick Millward	Friends of Lake Keowee	882-3655
Larry Dyck	Clemson University	885-7026
Walker Miller	Friends of Lake Keowee	868-2946
Joe McGill	SCE&G	860-0736
Jorge E. Jimenez	ZEL Engineers/Augusta FERC	724-5627
Larry Olliff	COE PD-E	(912)-652-5690
Mike Gray	Anderson Chamber	(864)-287-3070
Jeanne Hodge	USACE PAO	(912)-652-5770
M. Keith Crowe	COE – Thurmond Lake	(800)-533-3478
Ken Dial	COE – Thurmond Lake	(800)-533-3478
Ed Bettross	GA DNR - Fisheries	(706)-595-1619